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10/762,573

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Yoshiyuki Okuda

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SUGHRUE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

AMADIZ, RODNEY

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/762,573	<b>Applicant(s)</b> OKUDA ET AL.	
	<b>Examiner</b> Rodney Amadiz	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1 is objected to because of the following informalities: Line 6, change the word "as" to the word "that".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As to Claim 1, Applicant has two newly added limitations. The first limitation is found in lines 3-7 and the second newly added limitations is found in lines 8-12. Both of these limitations refer to the same element: "a second light emitting display panel...including patterned conductors". The claim becomes confusing in Page 3, lines 3-5, wherein the claim reads, "wherein the patterned conductors in one of said transmissive and second light-emitting display panels are different from those of another of said transmissive and second light-emitting display panels." This limitation is confusing because the claim calls for patterned conductors being different from other patterned conductors. However, as seen previously the only device having conductors is the "second light-emitting display panel". This brings up the question of how can a patterned conductor be different from a patterned conductor that does not exist? Examiner believes that the limitations cited on Page 2, lines 3-7, should read on the "at

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least one transmissive light-emitting display panel"; thereby, clarifying that the patterned conductors (cited on page 3, lines 3-5) correspond to the "the at least one transmissive light-emitting display panel" and the "second light-emitting display panel". It will be noted that if interpreted in this manner then the "one transmissive light-emitting display panel" comprises a patterned conductor which is different than the patterned conductor of the "second light-emitting display panel". Examiner also suggests that since there is a "second light-emitting display panel" that the "at least one transmissive light-emitting display panel" be changed to a first transmissive light-emitting display panel; wherein the Examiner will interpret the first newly added limitation (Page 2, lines 3-7) to read on a first transmissive light-emitting display panel. The Examiner will interpret the claims in light of what has been stated above.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori et al. (U.S. Patent 5,912,649—herein referred to as "Hattori") in view of Yokoyama (U.S. Patent 6,429,599—herein referred to as "Yokoyama").

As to **Claim 1**, Hattori teaches a three-dimensional image display device comprising: at least one transmissive light-emitting display panel (***Fig. 1, Reference***

**Number 20 and Col. 2, lines 46-57); wherein the first transmissive light-emitting display panel includes patterned conductors (Fig. 1, Conductive pattern 21 and 25) each including a plurality of light-emitting portions (Fig. 1, note the intersection of 21 and 25—see Fig. 5 for an example) and a bus line extending in a horizontal or vertical direction and bridged and connected to the light-emitting portions so that the light-emitting portions of patterned conductors are arranged in two dimensions (Although not exclusively shown for this transmissive panel, see Fig. 5, and note arrangement of conductors 15 and 11 for the second light-emitting display panel which would be the same arrangement for conductors 21 and 25 for the first transmissive light-emitting display panel) and a second light-emitting display panel located behind said transmissive light-emitting display panel (Fig. 1, Reference Number 10 and Col. 2, lines 25-45) including patterned conductors (Fig. 5, Reference Numbers 11 and 15) each including a plurality of light-emitting portions (Fig. 5, note intersection of 11 and 15) and a bus line extending in a horizontal or vertical direction and bridged and connected to the light-emitting portions so that the light-emitting portions of patterned conductors are arranged in two dimensions (See Fig. 5, and note arrangement of conductors 15 and 11), wherein the patterned conductors in one of said transmissive and second light-emitting display panels are different from those of another of said transmissive and second light-emitting display panels (Fig. 1, note that the patterned conductors of the first transmissive light-emitting display panel (21 and 25) are different than the patterned conductors of the second light-emitting display panel (11 and 15)).**

Hattori fails to teach each of the patterned conductors in one of the first transmissive and second light-emitting display panels are formed into a zigzag. Examiner cites Yokoyama to teach patterned conductors formed into a zigzag (***Yokoyama—Fig. 7, Reference Number 1***). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to form the conductors into a zigzag pattern as taught by Yokoyama in the three-dimensional image display device taught by Hattori in order to help improve the image resolution therefore enhancing the display quality.

As to **Claim 2**, Hattori teaches the light-emitting portions of said transmissive light-emitting display panel are located in a periodic pattern (***Hattori—Fig. 1, note intersection of elements 21 and 25 as portrayed in Fig. 5 for the second light-emitting display panel***); and said second light-emitting display panel has light-emitting portions located in a periodic pattern (***Hattori—Fig. 5, note intersection of elements 11 and 15***).

As to **Claim 3**, Hattori teaches the periodic patterns each have a matrix layout (***Hattori—Fig. 5, note matrix layout and Col. 2, lines 40-42 and 51-53***).

As to **Claim 4**, Hattori teaches supplying holes or electrons to the light-emitting layer (***Hattori—Col. 2, lines 56-57-note that electron movement is inherent when current is applied to the electrodes***). Hattori also teaches a pair of transparent electrodes sandwiching the light-emitting layer (***Hattori—Fig. 1, Reference numbers 21 and 25***); and one of the transparent electrodes is connected to the bus line (***Fig. 1, note bus lines 25***). Hattori, however, fails to teach the light-emitting portion of said

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transmissive light-emitting display panel including at least one organic compound material layer (*Yokoyama—Col. 1, lines 10-15*) made of an organic compound.

Examiner cites Yokoyama to teach a light-emitting portion of a transmissive light-emitting display panel including at least one organic compound material layer (*Yokoyama—Col. 1, lines 10-15*). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to make the light-emitting layer of an organic compound as taught by Yokoyama in the three-dimensional image display device taught by Hattori in order to simplify the manufacturing process through the use of inkjet patterning.

As to **Claim 5**, Hattori teaches the one transparent electrode connected to the bus line is a cathode (*Fig. 1, element 25*).

As to **Claim 6**, Hattori, teaches the light-emitting portion is formed in a rectangular form (*Hattori—Fig. 5, note that intersection of elements 11 and 15 is rectangular*).

As to **Claim 9**, Hattori fails to teach the patterned conductors having a pitch of P set there between, and the light-emitting portions alternately arrayed in the patterned conductors have a pitch P/2 set there between. Examiner cites Yokoyama to teach the patterned conductors having a pitch of P set there between, and the light-emitting portions alternately arrayed in the patterned conductors have a pitch P/2 set there between (*Fig. 4C and Fig. 7 and Col. 5, lines 40-61*). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to form the patterned conductors with a pitch P and the light-emitting portions with a pitch P/2 as

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taught by Yokoyama in the three-dimensional image display device taught by Hattori so as to increase the diffusion of the luminescent materials thereby reducing the possibility of color mixture (*Yokoyama—Col. 5, lines 43-64*).

As to **Claim 10**, Hattori teaches said transmissive and second light-emitting display panels are located, with respect to one another, so as to eliminate correlation between both the patterned conductors of said transmissive and second light-emitting display panels (*Fig. 1, note how the transmissive panel 20 is located with respect to the second light-emitting display panel 10, furthermore, note that in this position a clear image can be presented (Col. 1, lines 29-62)*).

As to **Claim 11**, Hattori fails to teach each of the light-emitting portions including a light-emitting layer made of an organic compound exhibiting electro-luminescence. Examiner cites Yokoyama to teach that the use of organic material in electroluminescent display panels is well known (*Yokoyama—Col. 1, lines 10-15*). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to make the light-emitting layer of an organic compound as taught by Yokoyama in the three-dimensional image display device taught by Hattori in order to simplify the manufacturing process through the use of inkjet patterning.

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori and Yokoyama as applied to claims 1-6 and 9 above, and further in view of Sotoguchi. (JP02002221730—herein referred to as “Sotoguchi”).



As to **Claim 7**, Hattori, as modified by Yokoyama, fails to teach the light-emitting portion is formed in a hexagonal form. Examiner cites Sotoguchi to teach a light-emitting portion formed in a hexagonal form (**Fig. 2**). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to form the light-emitting portion into a hexagonal form as taught by Sotoguchi in the three-dimensional image display device taught by Hattori and Yokoyama in order to help eliminate the moiré fringe (**Sotoguchi—Solution**).

As to **Claim 8**, Hattori, as modified by Yokoyama, fails to teach the light-emitting portion is formed in a rhombic form. Examiner cites Sotoguchi to teach a light-emitting portion formed in a rhombic form (**Fig. 5**). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to form the light-emitting portion into a rhombic form as taught by Sotoguchi in the three-dimensional image display device taught by Hattori and Yokoyama in order to help eliminate the moiré fringe.

### ***Response to Arguments***

7. Applicant's arguments filed January 8, 2007 have been fully considered but they are not persuasive. Applicant argues on page 7, lines 1-5 that "Hattori is silent about alignment of the patterned conductors in the front and rear electro-luminescent units. Hattori therefore fails to teach that the pattern of conductors in the front electro-luminescent unit is different from that of the rear electro-luminescent unit." However, Examiner exerts that this is not claimed. At most, the Applicant claims that "the

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patterned conductors in one of said transmissive and second light-emitting display panels are different from those of another of said transmissive and second light-emitting display panels.” This limitation is met by the Hattori reference. Applicant also argues that “Yokoyama does not teach a three-dimensional image display device, which can make it hard for an observer to recognize the moiré fringe.” (Pg. 7, lines 11-13)

Examiner asserts that the Yokoyama was not brought in to teach a three-dimensional display device. The Yokoyama reference was used to teach that patterned conductors can be formed into a zigzag. Furthermore, it is noticed that there is no mention of “moiré fringe” in the claims. Hence, it is analogous art because both the Hattori reference and the Yokoyama reference use EL panels. The only difference is that the Hattori reference uses two EL panels to make a three dimensional image. Applicant also argues that “no motivation is provided in Hattori and Yokoyama to prevent from the moiré in the three-dimensional image display device comprising plural EL panels in order to offer a clear picture image to the observer.” (Pg. 7, lines 19-21). Examiner asserts that there is no mention of preventing moiré fringe in the claims. Finally, Applicant argues that the Sotoguchi device is a liquid crystal display device, “which is not a three dimensional image display device of the self-emission type such as an EL display. Thus, there is no motivation in Sotoguchi to combine an LCD electrode structure with plural EL panels for a three-dimensional image display device in order to offer a clear picture image to the observer.” Examiner asserts that the Sotoguchi reference was not brought in to teach a three-dimensional display device. Sotoguchi was brought in to teach light emitting portions formed in different shapes. In other

words, Sotoguchi was brought in to teach structural limitations well-known in the art. Because both the Hattori and Sotoguchi references are display devices the arts are analogous to each other and therefore relevant in their combination.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

***Inquiries***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney Amadiz whose telephone number is (571) 272-7762. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

R.A.

R.A.  
5/29/07  
Division 2629

  
SUMATI LEFKOWITZ  
SUPERVISORY PATENT EXAMINER